

## **ABSTRACT OF THE DISCLOSURE**

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Coating apparatus including

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a coating vessel including

a vertical wall having

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a vertical interior surface having a circular cross section and an  
imaginary vertical axis,

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an open top and

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a bottom,

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a vertical shaft supported on the bottom of the coating vessel, the shaft having an axis  
aligned coaxially with the imaginary vertical axis of the interior surface having the circular  
cross section, and

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a coating liquid inlet / outlet adjacent to the bottom of the coating vessel.